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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/692,827	10/24/2003	Baiyi Zhao	2002B130A/2	9211
23455	7590	03/31/2006	EXAMINER	
EXXONMOBIL CHEMICAL COMPANY 5200 BAYWAY DRIVE P.O. BOX 2149 BAYTOWN, TX 77522-2149			PASTERCZYK, JAMES W	
			ART UNIT	PAPER NUMBER
			1755	

DATE MAILED: 03/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/692,827

Applicant(s)

ZHAO ET AL.

Examiner

J. Pasterczyk

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 February 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) 21-27 and 32-35 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20, 28-31 and 36-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-40 are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

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1. This Office action is in response to the amendment filed 2/28/06 and refers to the Office action mailed 11/29/05.

2. Applicant's election without traverse of claims 1-20 and 28-31 in the reply filed on 2/28/06 is acknowledged. Newly added claims 36-40 are commensurate with the elected claims and hence are examined herein. The examiner notes that non-elected claim 27 is not rejoinable with the claims under prosecution.

3. The abstract of the disclosure is objected to because it lacks nearly all detail about the claimed invention, yet discusses the purported merits of the invention. Correction is required. See MPEP § 608.01(b).

4. The rejection based on the Buchwald reference alone is withdrawn due to amendment. However, c.f. below for new prior art grounds of rejection as well as formal rejections.

5. Claims 13, 28, 30 and 38 are objected to because of the following informalities: in claim 13, last two lines, the groups methoxy through the end of the claim are not metalloids as claim 9 appears to require. In claim 28, line (i), change "and" to --or--. In claim 30, section (v), insert --a-- before "butylene" in the first line, and in the last line make "radicals" singular. In claim 38, delete the comma before "chloride". Appropriate correction is required.

6. Claims 9, 19 and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 9, "hydrocarbyl-substituted" should apparently be --substituted hydrocarbyl-- to differentiate it from the hydrocarbyl radicals mentioned previously.

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In claims 19 and 20, A having atoms that are not hydrogen or carbon appears to contradict both claims 1 and 2 from which these claims depend, which require that the Y backbone be hydrocarbyl only. Further in claim 19, E being any group 14 element similarly contradicts claims 1 and 2.

7. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

8. Claims 1-20, 28-31 and 36-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buchwald as cited in paragraph 10 of the previous Office action in view of Brookhart and Yorisue as cited in paragraph 11 of the previous Office action and Guram, USP 6,225,487 (hereafter referred to as Guram).

Buchwald discloses a transition metal compound reading on that of the present claims for use in carbon-carbon bond forming reactions (col. 1, l. 57; col. 7, l. 5-45; col. 9, l. 1-42; col. 31, l. 40 to col. 32, l. 32).

Buchwald lacks disclosure of the use of cocatalysts reading on those of the present claims.

However, Guram teaches that compounds with P-N ligands and transition metals reading on those of the present claims may be used in olefin polymerization reactions (col. 7, l. 59-64; col. 10, l. 4-43). Yorisue teaches that compounds also having P-N ligands and metals reading on those of the present claims may be used with MAO in ethylene polymerization (abstract), while Brookhart has a similar teaching (col. 7, l. 23-29; col. 8, l. 34-40; col. 10, l. 32-37; col. 29, examples 37-92; col. 44, examples 179-184; col. 46, l. 5-11). In each of these references the phrase "backbone comprises a chain that is four or more carbon atoms long" of present claim 1 is

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read broadly to mean that there are at least four carbon atoms in a chain, but that they do not necessarily connect in the shortest way possible the P and N atoms.

It would have been obvious to one of ordinary skill in the art to apply the teachings of Guram, Yorisue, and Brookhart to the disclosure of Buchwald with a reasonable expectation of obtaining a highly-useful olefin polymerization catalyst with the expected benefit of the catalyst being able to polymerize olefins with polar side groups.

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to J. Pasterczyk whose telephone number is 571-272-1375. The examiner can normally be reached on M-F from 9 to 5:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo, can be reached at 571-272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



J. Pasterczyk

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3/24/06



J.A. LORENZO
SUPERVISORY PATENT EXAMINER